

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph on page 1, lines 4-8 with the following:

A2 The present invention relates to an inhalant medicator suitable to prescribe granular or powdered medicines toward and within lungs of a patient by way of breathing action of the patient, and particularly to a blister pack suitable for the inhalant medicator.

Please replace the paragraphs starting on page 1, lines 10 and ending on page 3, line 10 with the following:

A3 Generally, there are two medications methods of prescribing medical powder toward and within lungs of an asthmatic patient, that is, one being a medication that method by which a medicine is inhaled by way of a liquid aerosol atomizer, and the other being an inhalation treatment by way of which granular or powdered medicines (which will be hereinafter referred to as "medical powder") encapsulated in a capsule or stored in a medical powder storage chamber are inhaled.

Of these medications methods for an asthmatic patient, an inhalant medicator used for an inhalation treatment where a dose of medical powder is inhaled, is generally constructed by of: (a) a medicator body including a capsule housing chamber (or a medical powder storage chamber) at one axial end and equipped at the other axial end with an inhalant port through which the medical powder is inhaled, (b) an air passageway communicating the inhalant port with the atmosphere via the capsule housing chamber, and (c) a pricking tool which is provided for pricking holes in the capsule accommodated in the capsule housing chamber.

In recent years, there have been proposed and developed various inhalant medicators utilizing a blister pack having a set of blisters (a plurality of blistered medical powder storage chambers) spaced apart from each other in the circumferential direction, for inhalant medication. Such inhalant medicators have been disclosed in Japanese Patent Provisional Publication Nos. 59-88158 and 62-41668.

The inhalant medicator as disclosed in the Japanese Patent Provisional Publication Nos. 59-88158 and 62-41668, includes a blister pack holder which holds a blister pack having a plurality of blisters circumferentially spaced apart from each other. The blister pack holder is rotatably mounted to a medicator body. Also, the blister pack installed on the holder

consists of a base panel formed with a large number of blistered portions, a lid panel affixed onto the principal surface of the base panel and defining a plurality of medical powder storage chambers by hermetically covering the blistered portions of the base panel. A dose of medical powder is stored in each of the medical powder storage chambers.

In order to prescribe or administer the medical powder toward and within lungs of a patient by way of breathing action, first, the blister pack is installed on the pack holder of the inhalant medicator. Second, holes needed to intercommunicate the atmospheric side and the inhalant port via the internal space of the medical powder storage chamber are pricked by means of a single plunger having a needle-shaped pricking tip.

Under these conditions, when the patient draws his or her breath while taking the inhalant port in his or her ~~mouse~~ mouth, air flow directed from the pricked holes through the medical powder storage chamber into the inhalant port enables medical powder stored in the medical powder storage chamber to be carried into the inhalant port. In this manner, medical powder stored in the storage chamber can be inhaled through the inhalant port into lungs of the patient.

In order to continuously perform inhalant medication, the blister pack is rotated by a predetermined angle together with the blister pack holder, and then the next medical powder storage chamber of the same blister pack is set at the pricking position. Thereafter, in the same manner described previously, a series of inhalant medication procedures are made. Thus, it is possible to consecutively dose a patient with a specified amount of medical powder by rotation of the blister pack holder without exchanging a capsule.

Please replace the paragraph starting on page 13, line 30 and ending on page 22, line 23 with the following:

Referring now to the drawings, particularly to Figs. 1 through 11, there are shown the inhalant medicator of the first embodiment and a blister pack 16 applied to the inhalant medicator of the first embodiment. In Figs. 1, 2, 9 and 10, reference sign 1 denotes an inhalant medicator assembly. The inhalant medicator assembly 1 is mainly constructed by a medicator body 2 and an inhalant port 7. As described later, the medicator body 2 is formed therein with a plurality of air passageways, and also serves as a blister pack holder mounting portion for a blister pack 16 which will be fully described later.

As best seen in Figs. 3 through 5, as a whole, the medicator body 2 is substantially cylindrical in shape. To be exact, the medicator body 2 is comprised of an upper medicator-

body portion 4 having a substantially semi-circular cross section, a lower medicator-body portion 5 having a substantially semi-circular cross section (see Figs. 3 and 5), and a substantially cylindrical joining portion 3 through which the upper and lower medicator-body portions 4 and 5 are formed integral with each other. Joining portion 3 has an internal thread portion 3A into which an external thread portion 7A of the inhalant port 7 is screwed.

Upper and lower medicator-body portions 4 and 5, each having the substantially semi-circular cross section, are constructed in such a manner as to axially extend from the joining portion 3, so that their opposed flat surfaces, namely a ceiling wall surface 6B of a holder mounting groove 6 (described later) and a bottom surface 6C of the holder mounting groove 6, are parallel to each other and spaced apart from each other by a predetermined aperture (see Figs. 3 and 5).

Medicator body 2 is also formed with the blister pack holder mounting groove 6 defined between upper and lower medicator-body portions 4 and 5. As a whole, the medicator body 2 is substantially cylindrical in shape. As clearly shown in Figs. 1, 3 and 5, the upper medicator-body portion 4 is formed with a pricking tool guide 4A capable of slidably supporting or guiding a support portion 13 of a pricking tool (pricking means) 12 (described later). The holder mounting groove 6 is defined between upper and lower medicator-body portions 4 and 5 by three surfaces, namely an innermost end surface 6A forming part of the joining portion 3, the ceiling wall surface 6B corresponding to the underside of upper medicator-body portion 4, and the bottom surface 6C corresponding to the upside of lower medicator-body portion 5.

As viewed from the axial direction of the inhalant port 7, the holder mounting groove 6 opens to three directions, that is, leftwards and rightwards, and in one axial direction of the medicator body. The innermost end surface 6A of the groove 6 is formed into a concave circular-arc shape that fits the contour of the outer periphery of a blister pack holder 8 (see Fig. 4). The predetermined aperture defined between the ceiling wall surface 6B and the bottom surface 6C is dimensioned to be somewhat greater than the thickness dimension of the holder 8 (see Fig. 1).

The lower medicator-body portion 5 is formed with a protruded portion 6D extending upwards from a substantially central portion of the bottom surface 6C of holder mounting groove 6, such that the axis of the protruded portion 6D is perpendicular to the bottom surface 6C. The protruded portion 6D functions as a center of rotation (or an axis of rotation) of the blister pack holder 8. The protruded portion 6D is engaged with a guide groove 8E formed in the holder 8, when mounting the holder 8 into the groove 6. Inhalant port 7 is

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screwed into the other axial end of medicator body 2, and is substantially cylindrical hollow in shape. The top end (the left-hand side axial end of the inhalant medicator assembly 1 shown in Fig. 1) of inhalant port 7 is configured in a manner so as to gradually gradually become diametrically larger along the axis moving toward the right side of Fig. 1 small-sized in the other axial direction.

As shown in Fig. 1, the root portion of inhalant port 7 is formed nearby the external thread portion 7A with a plurality of radially-extending auxiliary air passageways 7B, 7B, ... (only two auxiliary air passageways 7B and 7B are shown in Fig. 1, for the purpose of illustrative simplicity). Each of the auxiliary air passageways 7B serves to avoid difficulty in breathing action by increasing a quantity of air flowing through the inhalant medicator during the breathing action. As can be appreciated from the cross section shown in Fig. 1, the inhalant port 7 is installed on the other axial end of the medicator body by screwing the external thread portion 7A of inhalant port 7 into the internal thread portion 3A of joining portion 3 of the medicator body.

On the other hand, the blister pack holder 8 is detachably rotatably mounted into the groove 6 of medicator body 2, so that the disc-shaped holder 8 is easily inserted into and removed from within the groove 6. When the innermost end of the guide groove 8E of the holder engages with the protruded portion 6D of the medicator body, the holder 8 is rotatable about the protruded portion 6D.

As clearly shown in Figs. 6 and 7, the holder 8 has a substantially disc shape. As can be seen from the top view shown in Fig. 6, the holder 8 is formed on its upside with eight recessed fit portions 8A, 8A, ..., 8A circumferentially spaced apart from each other by 45 degrees and located near its circumference. In the inhalant medicator of the first embodiment, the eight recessed fit portions 8A are configured or formed as eight radially-elongated, substantially semi-cylindrical cavities. Eight blistered portions 16B of blister pack 16 (described later) are integrally fitted into the respective eight recessed fit portions 8A of holder 8.

The holder 8 is formed in each of recessed fit portions 8A with an inflow pin insertion hole (a radially inward pin insertion hole) 8B and an outflow pin insertion hole (a radially-outward pin insertion hole) 8C spaced apart from each other in the radial direction of the holder 8 (viewing Fig. 6), so that two pin insertion holes 8B and 8C penetrate the disc-shaped holder 8 in a direction perpendicular to upper and lower surfaces of the holder 8. As viewed from the top view of Fig. 6 and from the bottom view of Fig 8, and as can be appreciated from the circumferentially-spaced layout of eight radially-elongated recessed fit portions 8A,

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eight pairs of radially-aligned inward and outward pin insertion holes (8B, 8C) are also circumferentially spaced apart from each other by 45 degrees. As viewed from the bottom view shown in Fig. 7, the holder 8 is also formed with eight recessed fit portions 8D, 8D, ..., 8D. The recessed fit portions 8D are formed as eight small spherical bowl cavities. In the shown embodiment, the number of the recessed fit portions 8D is an even number, for easy but reliable engagement between one diametrically-opposed pair (8D, 8D) of the eight recessed fit portions and a pair of spring-loaded balls (9A, 9A) of a positioning mechanism 9 (described later).

As fully described later, a positioning mechanism (positioning means) 9 is provided between the holder 8 and the blister pack holder mounting portion of the medicator body for positioning one of the medical powder storage chambers of the blister pack installed or held on the holder 8 at a predetermined pricking position. A pair of spherical ball portions (9B, 9B) included in the positioning mechanism 9 are easily fitted to one diametrically-opposed pair (8D, 8D) of the eight recessed fit portions. Such easy fit between two spherical ball portions (9B, 9B) and diametrically-opposed pair recessed portions (8D, 8D) ensures easy rotation of the holder 8 about the protruded portion 6D (serving as the axis of rotation of the holder 8) and is produced by proper mechanical snap action during rotary motion of the holder. In the shown embodiment, two spherical ball portions (9B, 9B) are comprised of spring-loaded balls included in the positioning mechanism 9 (described later).

The eight recessed fit portions 8D (eight small spherical bowl cavities) are located around the center of the holder 8. Each of recessed fit portions 8D is located on a straight line including two centers of the associated radially-aligned inward and outward pin insertion holes 8B and 8C. The eight recessed fit portions 8D are also circumferentially spaced apart from each other by 45 degrees.

The holder 8 is also formed on the underside with the guide groove 8E radially extending from the center of rotation of the holder 8. The guide groove 8E is formed to guide the protruded portion 6D of the holder mounting groove 6 toward the center of rotation of the holder 8. The holder 8 is inserted or mounted into the holder mounting groove 6 in accordance with the following procedures. First, the guide groove 8E is engaged with the protruded portion 6D under a condition where the blister pack 16 is installed on and fitted to the upside of the holder 8. Thereafter, the holder 8 installing thereon having the blister pack 16 installed thereon, is inserted into the holder mounting groove 6 of medicator body 2, until the innermost end of the guide groove 8E of the holder reaches the protruded portion 6D of the medicator body.

As best seen in Figs. 4 and 5, a component part denoted by 9 is the positioning mechanism (or positioning means). The positioning mechanism 9 includes a pair of spring-loaded ball housing bores (9A, 9A) each closed at one end. The bores (9A, 9A) are point-symmetrical with respect to the protruded portion 6D and formed in the bottom surface 6C (lower medicator-body portion 5) of holder mounting groove 6.

The positioning mechanism 9 also includes two spring-loaded spherical balls (9B, 9B) housed in the respective ball housing bores (9A, 9A) in an unremovable fashion so that the inside diameter of the opening end of each spring-loaded ball housing bore 9A is slightly less than the inside diameter of the other portion of the bore 9A, and two coil springs (9C, 9C), each operably disposed in the ball housing bore 9A in a manner so as to permanently bias the associated ball 9B in a direction that causes a part of the spherical surface of the ball 9B to be slightly protruded from the bottom surface 6C through an opening end of the bore 9A into the groove 6 of medicator body 2. In the shown embodiment, the positioning mechanism 9 is comprised of a snap-action mechanism with a pair of spring-loaded balls (9B, 9B).

With the previously-noted arrangement of the positioning mechanism 9, when the holder 8 is rotated under a condition where the holder 8 has been mounted into the groove 6 of medicator body 2, the two spring-loaded balls (9B, 9B) can be brought into engagement with the respective recessed fit portions (8D, 8D) of the holder 8. By way of the engagement between the two spring-loaded balls (9B, 9B) and the recessed fit portions (8D, 8D) with the rotary motion of the holder 8, one of eight radially-elongated recessed fit portions 8A (that is, one of eight medical powder storage chambers 16D of blister pack 16) is efficiently reliably positioned in a predetermined pricking position of the pricking tool 12 (or in a set position for inhalant medication).

Reference sign 10 denotes an inflow air passageway through which the atmosphere (outside air) can be introduced into or directed toward within the recessed fit portion 8A of the holder 8. The inflow air passageway 10 includes an upper axially-extending air passage 10A which is bored or formed in the upper medicator-body portion 4, and whose one axial end opens at one axial end of the upper medicator-body portion 4 to the atmosphere. In a similar manner, the inflow air passageway 10 includes a lower axially-extending air passage 10B which is bored or formed in the lower medicator-body portion 5, and whose one axial end opens at one axial end of the lower medicator-body portion 5 to the atmosphere.

The inflow air passageway 10 also includes a radially-extending pin insertion hole 10C formed in the medicator body 2 so that the pin insertion hole 10C radially extends from the pricking tool guide 4A via the upper medicator-body portion 4 toward the lower

medicator-body portion 5. The radially-extending pin insertion hole 10C is fluidly communicated with the other axial end of each of the upper and lower axially-extending air passages 10A and 10B. The pin insertion hole 10C is designed to communicate with the inflow pin insertion hole 8B of the holder 8, when one of eight recessed fit portions 8A of the holder 8 is positioned in the pricking position.

On the other hand, reference sign 11 denotes an outflow air passageway through which medical powder stored in the medical powder storage chamber 16D of the blister pack 16 flows into the inhalant port 7. The outflow air passageway 11 includes a pin insertion hole 11A, an upper outflow air passage 11B, and a lower outflow air passage 11C. The pin insertion hole 11A radially extends in parallel with the pin insertion hole 10C of the inflow air passageway 10. The upper outflow air passage 11B axially extends from the upper medicator-body portion 4 via the joining portion 3 toward the inhalant port 7. One axial end of the upper outflow air passage 11B is fluidly communicated with the pin insertion hole 11A, whereas the other axial end opens to the interior space of the inhalant port 7. In a similar manner, one axial end of the lower outflow air passage 11C is fluidly communicated with the pin insertion hole 11A, whereas the other axial end opens to the interior space of the inhalant port 7.

In Fig. 1, a component part denoted by reference sign 12 is the pricking tool used to prick holes in the blister pack 16. As shown in Fig. 1, the pricking tool 12 includes the support portion 13 whose outer periphery is slidably supported or guided by a cylindrical inner peripheral wall of the pricking tool guide 4A, and a pair of parallel pins (14, 14) whose root portions are fixedly connected to the support portion 13, and whose tips are inserted into the respective pin insertion holes 10C and 11A. The pair of parallel pins are spaced apart from each other by a predetermined distance smaller than a longitudinal length of each of the blistered portions of the blister pack. The pricking tool 12 also includes a return spring 15 operably disposed between the support portion 13 and the upper medicator-body portion 4 for permanently biasing the support portion 13 and the pins (14, 14) toward their initial positions.

When the pricking action is performed, a patient pushes the support portion 13 of pricking tool 12 into the pricking tool guide 4A against the bias of the spring 15, and thus the two pins (14, 14) are deeply inserted into the respective pin insertion holes 10C and 11A. Thus, the tips of pins (14, 14) penetrate the blister pack 16. As a result of this, two inflow holes or two inflow ports (H1, H1) and two outflow holes or two outflow ports (H2, H2) are pricked respectively in the blistered portion 16B of a base panel 16A and a lid panel 16C of blister pack 16 (see Figs. 10 and 11), so that two inflow holes (H1, H1) and two outflow

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holes (H2, H2) are pricked in a perpendicular to the upper surface of the lid panel of the blister pack, and two inflow holes (H1, H1) and two outflow holes (H2, H2) are spaced apart from each other by a predetermined distance which corresponds to a distance between the downstream end of the inflow air passage and the upstream end of the outflow air passageway.

As detailed hereunder, eight blistered portions 16B of the base panel 16A define eight medical powder storage chambers 16D in conjunction with the lid panel 16C. After pricking, as soon as the pushing force applied to the support portion 13 is removed, the support portion 13 and the two pins (14, 14) are returned back to their initial positions.

Please replace the paragraph starting on page 24, line 30 and ending on page 26, line 24 with the following:

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Hereunder described in detail is the actual operation of inhalant medication made by virtue of breathing action of a patient. First of all, in order to prick holes in the blister pack 16 held at the predetermined pricking position, the support portion 13 of pricking tool 12 is pushed or depressed.

As shown in Figs. 10 and 11, two opposed inflow holes (H1, H1) communicating inflow air passageway 10 are pricked in the blistered portion 16B of base panel 16A and in the lid panel 16C by means of one of the two pins (14, 14) inserted into the pin insertion hole 10C, and at the same time two opposed outflow holes (H2, H2) communicating outflow air passageway 11 are pricked in the blistered portion 16B of base panel 16A and in the lid panel 16C by means of the other pin 14 inserted into the pin insertion hole 11A. As a result, the medical powder storage chamber 16D of blister pack 16 is communicated through the inflow holes (H1, H1) with the inflow air passageway 10, and also communicated through the outflow holes (H2, H2) with the outflow air passageway 11.

Under these conditions, when the patient draws his or her breath while taking the inhalant port 7 in his or her mouse mouth, air (atmosphere) passes through the inflow air passageway 10 via the two inflow holes (H1, H1) and then flows into the medical powder storage chamber 16D.

At this time, the air flow introduced via the inflow holes (H1, H1) into the medical powder storage chamber 16D is brought into collision with the inner wall surface of medical powder storage chamber 16D, because the inflow holes (H1, H1) and the outflow holes (H2, H2) are spaced apart from each other in the axial direction of the medicator body (or in the

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longitudinal direction of the blistered portion of the blister pack) by a distance between the two pin insertion holes 8B and 8C, thereby resulting in turbulent flow within the medical powder storage chamber 16D. Thus, the medical powder stored in the chamber 16D can be effectively diffused or micronized by means of the turbulent flow.

As a consequence, it is possible to effectively flow out almost all of the medical powder pre-stored in the storage chamber 16D through the outflow holes (H2, H2) and the outflow air passageway 11 into the inhalant port 7 by virtue of the turbulent air flow. As discussed above, during breathing action, the patient can inhale a specified amount of medical powder via his or her oral cavity and trachea into lungs with the aid of the turbulent air flow. In this manner, the first inhalant medication can be completed.

Subsequently to the above, when the second inhalant medication is needed, the holder 8 is first rotated from the current angular position by 45 degrees. The next diametrically-opposed recessed fit portions 8D of holder 8 are thus engaged with the two spring-loaded balls 9B of positioning mechanism 9. After this, through the previously-noted pricking operation and inhaling operation, it is possible to inhale medical powder pre-stored in the other medical powder storage chamber 16D.

In this manner, eight inhalant medications in total can be continuously made. After the eight inhalant medications in total have been made, the holder 8 is removed from the medicator body 2, and then the old blister pack is replaced with a new blister pack for the next inhalation medication.

Please replace the paragraph starting on page 31, line 21 and ending on page 32, line 19 with the following:

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In the same manner as the inhalant medicator of the first embodiment, when inhalant medication is initiated using the inhalant medicator of the second embodiment, first, the preliminary operation of inhalant medication is made. Inflow holes (H1, H1) and outflow holes (H2, H2) are pricked in the blistered portion 23 of base panel 22 and in the lid panel 24 of blister pack 21 held at the predetermined pricking position, after a series of preliminary setting operations have been completed.

Under these conditions, when the patient draws his or her breath while taking the inhalant port 7 in his or her mouse mouth, air flows through the inflow air passage 10 and the inflow holes (H1, H1) into the storage chamber 25. At this time, air flow directed from the inflow holes (H1, H1) to the outflow holes (H2, H2) passes through the flow-constriction

orifice passage 26. By means of the orifice passage 26, the flow velocity of air flow passing through the orifice passage 26 is increased, and thus causing properly strengthened turbulent flow (see Figs. 18 and 19). Therefore, the strengthened turbulent flow can effectively diffuse or micronize the medical powder.

As a result of this, it is possible to effectively flow out almost all of medical powder pre-stored in the storage chamber 25 through the outflow holes (H2, H2) and the outflow air passageway 11 into the inhalant port 7 by virtue of the properly-strengthened turbulent air flow. Thus, during breathing action, the patient can inhale a specified amount of medical powder via his or her oral cavity and trachea into lungs by way of the properly-strengthened turbulent air flow.

Please replace the paragraph starting on page 33, line 18 and ending on page 36, line 9 with the following:

A7 Referring now to Figs. 20 through 23, there is shown the modified blister pack 31. As detailed hereunder, the modified blister pack 31 shown in Figs. 20 - 23 is characterized by a deeply-recessed medical powder collecting portion 34, as viewed from the cross section shown in Fig. 21. The blister pack 31 is comprised of base panel 32, medical powder collecting portion 34, lid panel 35, and medical powder storage chamber 36.

The base panel 32 has a thin-walled disc shape and is made of synthetic resin, aluminum material, or the like. As best seen in Fig. 20, the base panel 32 has a plurality of blistered portions 33, 33, ..., 33 (eight blistered portions) around its entire circumference. The shape and material of the lid panel 35 of blister pack 31 are identical to those of blister pack 16 applied to the inhalant medicator of the first embodiment (or to those of blister pack 21 applied to the inhalant medicator of the second embodiment).

The modified blister pack 31 shown in Figs. 20 - 23 is different from the blister pack 21 shown in Figs. 15 - 17, in that the shape of each blistered portion 33 of base panel 32 differs from the shape of each blistered portion 23 of base panel 22. As best seen in Fig. 21, the blistered portions 33 are formed as eight radially-elongated, substantially elliptical convex portions. Each of the blistered portions 33 includes a radially-inward, shallow pricked portion 33A in which the previously-noted inflow hole H1 is pricked, and a radially-outward, shallow pricked portion 33B in which the previously-noted outflow hole H2 is pricked.

The medical powder collecting portion 34 is deeply formed or recessed in the base panel 32 midway between the radially-inward, shallow pricked portion 33A and the radially-

outward, shallow pricked portion 33B. The medical powder collecting portion 34 serves as an air-flow regulation means as described later. When the blister pack 31 is installed on the blister pack holder, the medical powder collecting portion 34 of the blistered portion 33 serves as a deeply-recessed medical powder collecting portion kept at a level lower than the shallow pricked portions (33A, 33B).

A portion denoted by reference sign 36 is the medical powder storage chamber defined between the blistered portion 33 of base panel 32 and the lid panel 35. A predetermined amount of medical powder is stored in the medical powder storage chamber 36, such that almost all of the medical powder is collected or pre-stored in the medical powder collecting portion 34.

The blister pack 31 shown in Figs. 20 - 23 is constructed as previously discussed. Hereinbelow described in detail in reference to Figs. 22 and 23 are the flow of air passing through the medical powder storage chamber 36 and the flow of medical powder within the storage chamber 36 during inhalation. Inflow holes (H1, H1) and outflow holes (H2, H2) are pricked in the blistered portion 33 of base panel 32 and in the lid panel 34 of blister pack 31 held at the predetermined pricking position, after a series of preliminary setting operations have been completed.

Under these conditions, when the patient draws his or her breath while taking the inhalant port 7 in his or her ~~mouse~~ mouth, at the initial stage of the inhaling action, air introduced through the inflow air passage 10 via the inflow holes (H1, H1) into the storage chamber 35, functions to fling up and diffuse a part of medical powder located at the top of the medical powder collecting portion 34 (see Fig. 22). The upflung and diffused portion of the medical powder collected in the collecting portion 34 is supplied into the outflow holes (H2, H2).

When several times of inhaling actions are repeated, the medical powder stored in the storage chamber 36 can be gradually reduced. At this time, as clearly shown in Fig. 23, air flow passing through the inflow holes (H1, H1) enters the medical powder collecting portion 34, and therefore medical powder collected in the collecting portion 34 is gradually flung up and diffused from the uppermost portion until a lowermost portion of the medical powder stored is flung up, and thus the diffused medical powder is supplied into the outflow holes (H2, H2) little by little.

As discussed above, according to the structure of the blister pack 31 having the deeply-recessed medical powder collecting portion 34, it is possible to fling up and uniformly diffuse the medical powder stored in the storage chamber 36 little by little. This prevents a

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large amount of air/medical powder mixture in one breath from being flown into the outflow holes (H₂, H₂), thus avoiding the outflow holes from being choked up with such a large amount of medical powder flow mass. In case that inhalant medication is made to a patient having a weak trachea, the patient can inhale the medical powder little by little. This prevents the patient from getting a fit of coughing during the inhalant medication, thus ensuring a stable medication during the breathing action.

Please replace the paragraph starting on page 36, line 10 and ending on page 38, line 27 with the following:

Referring now to Figs. 24 through 27, there is shown another modified blister pack 41. As detailed hereunder, the modified blister pack 41 shown in Figs. 24 - 27 is characterized by a sloped surface 44, as viewed from the cross section shown in Fig. 25. The blister pack 41 is comprised of base panel 42, sloped surface 44, lid panel 45, and medical powder storage chamber 46.

The blistered portion 43 of blister pack 41 is formed with the previously-noted sloped surface 44 such that a side of the inflow holes (H₁, H₁) penetrating the radially-inward half of the blistered portion of base panel 42 is formed as a shallow portion, whereas a side of the outflow holes (H₂, H₂) penetrating the radially-outward half of the blistered portion of base panel 42 is formed as a deep portion.

As best seen in Fig. 24, the base panel 42 has a plurality of blistered portions 43, 43, ..., 43 (eight blistered portions) around its entire circumference. The shape and material of the lid panel 45 of blister pack 41 are identical to those of blister pack 16 applied to the inhalant medicator of the first embodiment (or to those of blister pack 31 shown in Figs. 20 - 23).

The modified blister pack 41 shown in Figs. 24 - 27 is different from the blister pack 21 shown in Figs. 15 - 17, in that the shape of each blistered portion 43 of base panel 42 differs from the shape of each blistered portion 23 of base panel 22. As best seen in Fig. 25, the blistered portions 43 are formed as eight radially-elongated, substantially elliptical convex portions.

The radially-elongated inward half of the blistered portion 43 is formed as a comparatively shallow, sloped surface portion 44 (simply, a sloped surface), while the radially-elongated outward half of the blistered portion 43 is formed as a comparatively deep, recessed portion (simply, a deep recess), as viewed from the cross section shown in Fig. 25.

In other words, the sloped surface 44 is dimensioned or sloped downwards (viewing Fig. 25) so that the convexity ratio of the blistered portion 43 radially increases from the inside to the outside. The inflow holes (H1, H1) are pricked in the sloped surface 44, while the outflow holes (H2, H2) are pricked in the deep recess.

The medical powder storage chamber 46 is defined between the blistered portion 43 of base panel 42 and the lid panel 45. A predetermined amount of medical powder is stored in the medical powder storage chamber 46, such that almost all of the medical powder is mainly stored in the deep recess corresponding to the outflow holes (H2, H2) by way of the sloped surface 44.

The blister pack 41 shown in Figs. 24 - 27 is constructed as previously discussed. Hereinbelow described in detail in reference to Figs. 26 and 27 are the flow of air passing through the medical powder storage chamber 46 and the flow of medical powder within the storage chamber 46 during inhalation. Inflow holes (H1, H1) and outflow holes (H2, H2) are pricked in the blistered portion 43 of base panel 42 and in the lid panel 44 of blister pack 41 held at the predetermined pricking position, after a series of preliminary setting operations have been completed.

Under these conditions, when a patient draws his or her breath while taking the inhalant port 7 in his or her ~~mouse~~ mouth, at the initial stage of the inhaling action, air introduced through the inflow air passage 10 via the inflow holes (H1, H1) into the storage chamber 46, flows through the interior of the storage chamber in a manner so as to push out the medical powder toward within the outflow holes (H2, H2) while diffusing the medical powder mainly stored in the deep recess of the blistered portion 43 (see Fig. 26). Thus, the air introduced through the inflow holes (H1, H1) forcibly pushes the medical powder towards the outflow holes (H2, H2), and thus the medical powder stored in the storage chamber 46 is flown out of the outflow holes (H2, H2) at a breath (see Fig. 27).

According to the structure of the blister pack 41 having the sloped surface 44 at the inflow side thereof, it is possible to flow out the medical powder stored in the storage chamber 46 at a breath, such that the medical power accumulated around the outflow holes (H2, H2) is pushed out by way of air flow directed from the inflow holes (H1, H1) to the outflow holes (H2, H2). As a result, the patient can inhale the medical powder stored in the storage chamber 46 for a short time period. This reduces a burden on the patient's lungs. In particular, the blister pack 41 shown in Figs. 24 - 27 is suitable to prescribe a relatively small amount of medical powder.

Please replace the paragraph starting on page 38, line 28 and ending on page 41, line 10 with the following:

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Referring now to Figs. to Figs. 28 through 31, there is shown another modified blister pack 51. As detailed hereunder, the modified blister pack 51 shown in Figs. 28 - 31 is characterized by a sloped surface 54, as viewed from the cross section shown in Fig. 29. The blister pack 51 is comprised of base panel 52, sloped surface 54, lid panel 55, and medical powder storage chamber 56.

The blistered portion 53 of blister pack 51 is formed with the previously-noted sloped surface 54 such that a side of the outflow holes (H2, H2) penetrating the radially-outward half of the blistered portion of base panel 52 is formed as a shallow portion, whereas a side of the inflow holes (H1, H1) penetrating the radially-inward half of the blistered portion of base panel 52 is formed as a deep portion.

As best seen in Fig. 28, the base panel 52 has a plurality of blistered portions 53, 53, ..., 53 (eight blistered portions) around its entire circumference. The shape and material of the lid panel 55 of blister pack 51 are identical to those of blister pack 16 applied to the inhalant medicator of the first embodiment (or to those of blister pack 31 shown in Figs. 20 - 23).

The modified blister pack 51 shown in Figs. 28 - 31 is different from the blister pack 21 shown in Figs. 15 - 17, in that the shape of each blistered portion 53 of base panel 52 differs from the shape of each blistered portion 23 of base panel 22. As best seen in Fig. 29, the blistered portions 53 are formed as eight radially-elongated, substantially elliptical convex portions.

The radially-elongated outward half of the blistered portion 53 is formed as a comparatively shallow, sloped surface portion 54 (simply, a sloped surface), while the radially-elongated inward half of the blistered portion 53 is formed as a comparatively deep, recessed portion (simply, a deep recess), as viewed from the cross section shown in Fig. 29. In other words, the sloped surface 54 is dimensioned or sloped upwards (viewing Fig. 25) so that the convexity ratio of the blistered portion 53 radially decreases from the inside to the outside.

The outflow holes (H2, H2) are pricked in the sloped surface 54, while the inflow holes (H1, H1) are pricked in the deep recess. The medical powder storage chamber 56 is defined between the blistered portion 53 of base panel 52 and the lid panel 55. A predetermined amount of medical powder is stored in the medical powder storage chamber

56, such that almost all of the medical powder is mainly stored in the deep recess corresponding to the inflow holes (H1, H1) by way of the sloped surface 54.

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The blister pack 51 shown in Figs. 28 - 31 is constructed as previously discussed. Hereinbelow described in detail in reference to Figs. 30 and 31 are the flow of air passing through the medical powder storage chamber 56 and the flow of medical powder within the storage chamber 56 during inhalation. Inflow holes (H1, H1) and outflow holes (H2, H2) are pricked in the blistered portion 53 of base panel 52 and in the lid panel 54 of blister pack 51 held at the predetermined pricking position, after a series of preliminary setting operations have been completed.

Under these conditions, when a patient draws his or her breath while taking the inhalant port 7 in his or her ~~mouse~~ mouth, at the initial stage of the inhaling action, air introduced through the inflow holes (H1, H1) into the storage chamber 56 is brought into direct-collision with the medical powder pre-stored in the deep recess of blistered portion 53 in which the inflow holes (H1, H1) are pricked. As a result, the medical powder is diffused within the storage chamber 56 at a breath (see Fig. 30). Then, air flow introduced through the inflow holes (H1, H1) acts to gradually flow out the medical powder through the outflow holes (H2, H2) (see Fig. 31).

According to the structure of the blister pack 51 having the sloped surface 54 at the outflow side thereof, it is possible to effectively diffuse the medical powder stored in the storage chamber by way of direct collision between the air flow introduced through the inflow holes (H1, H1) into the storage chamber and the medical powder stored. Thus, the blister pack 51 functions to uniformly disperse the medical powder into the entire air flow, while adequately diffusing the medical powder within the storage chamber 56. That is, the blister pack 51 permits medical powder to be stably supplied or inhaled into the lungs of the patient little by little.